

# Red-cockaded Woodpecker Survey Protocol

Project Development and  
Environmental Analysis Branch



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Version 1.2

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## **Purpose**

The purpose of this procedure is to guide biologists through the protocol for surveying for red-cockaded woodpecker (RCW).

## **Responsibility**

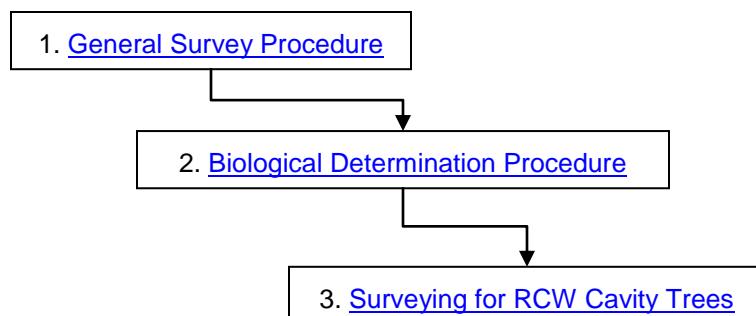
It is the responsibility of the biologist either conducting the actual survey or managing the private firm conducting the survey to be familiar with this protocol and to make sure it is followed.

It is the responsibility of the person requesting the survey to do so in a timely manner and to give all pertinent project data to the biologist conducting the survey.

## **Scheduling and Time Constraints**

Generally, the request for a survey should be made six (6) months before the required due date. However, if scope length is large, allow additional time. The PDU Project Manager should discuss this with NEU Project Manager. Although surveys can be conducted at any time during the year, the optimum time frame for surveys is November 1-March 15.

## **Procedures**



The following four procedures are based on the U.S. Fish and Wildlife Service's RCW Recovery Plan 2003. The procedures are also based on NEU biologists' prior project experience and past project coordination with USFWS.

### **General Survey Procedure**

- Step 1.** Consult the Natural Heritage Database for information on known populations of RCW or known locations of suitable nesting or foraging habitat for RCW. For projects on or adjacent to large public lands (e.g. Fort Bragg, Croatan National Forest, Pocosin Lakes National Wildlife Refuge, Sandhills Gamelands, Holly Shelter Gamelands), check with local biologists as well.
- Step 2.** Surveys can be done year round but optimal time to survey is when the leaves have fallen off the trees, generally November to early March.
- Step 3.** Obtain most recent available aerial photography. Prepare map using aerial photography with study area. Also include a half mile boundary from study area. (ArcMap is a good resource to use for this)
- Step 4.** Assess through field reconnaissance if there is [suitable foraging habitat](#) within study area.
- Step 5.** If there is no suitable foraging habitat within the study area then no further surveys are needed.
- Step 6.** Also, assess if there is [suitable nesting habitat](#) within study area. If found, follow [Surveying for RCW Cavity Trees](#).
- Step 7.** If suitable foraging habitat is found within study area, then biologist must survey for suitable nesting habitat within a half mile of all foraging habitat within study area.
- Step 8.** For nesting and foraging habitat surveys within the project study area and within 0.5 mi of the project site, potential habitat is assessed at the level of the stand. A stand is a term often used to refer to a wooded area receiving past or current silvicultural treatment as a single management unit. For the purposes of these procedures, the term includes any subset of a tract of wooded land, divided by biological community type, management history, or any other reasonable approach. A small tract of land may be considered a single stand.
- Step 9.** For large projects with several stands, see [RCW Survey Form](#) as a resource to organize field notes for each stand.
- Step 10.** Surveys should not be conducted after a hard rain. This makes it difficult to see sap and cavities.
- Step 11.** In habitat that is too thick to walk through (usually in pocosin habitat) surveys may be done by helicopter. Helicopter surveys must be done during leaf out. See your supervisor to determine if helicopter surveys are needed.

### **Biological Determination Procedure**

This procedure outlines the general steps in determining a Biological Conclusion. If you have a project with an unusual situation that does not fall into the categories described below, alert your immediate supervisor and/or coordinate with USFWS.

- Step 1.** If no suitable foraging or nesting habitat is present, the biological conclusion is "No Effect."
- Step 2.** If there is either suitable foraging habitat or suitable nesting habitat but surveys did not find any RCW cavity trees and there are no known RCW trees or clusters within 1.0 mile of study area then the biological conclusion is "No Effect"

- Step 3.** If the above is true but project is near a large population of RCWs (i.e. Sandhills area) consult with supervisor and/or USFWS for appropriate biological conclusion.
- Step 4.** If RCW cavity trees are found within the study area or a half mile from study area, then the biologist needs to discuss this with supervisor and/or USFWS on the degree of consultation. If active RCW trees are found, then most likely a foraging habitat analysis (FHA) needs to be conducted.

### **Identification of Suitable Foraging Habitat**

During field surveys in the project study area, look for the following characteristics of suitable foraging habitat:

- Pine or pine/hardwood stand of forest, woodland or savanna
- Dominant trees in the stand are pines (50% or more in composition)
- Dominant pine trees in the stand are 30 years in age or older

These characteristics do not necessarily describe good quality foraging habitat (see 2E, 8I in RCW Recovery Plan 2003); rather, this is a conservative description of potentially suitable foraging habitat.

The age of stands can be determined by aging representative dominant pines using an increment-borer and counting annual growth rings. Stand data describing size classes may be substituted for aging representative pines if the average size of 30 year-old pines is known for the local area and habitat (i.e., at least 10 in dbh or larger).

### **Identification of Suitable Nesting Habitat**

During field surveys, look for the following characteristics of suitable nesting habitat:

- Pine or pine/hardwood stand forest, woodland, or savanna
- Dominant trees in the stand are pines (50% or more in composition)
- Stands 60 years in age or older

Younger stands may contain 60 year old or older pine trees scattered or clumped within the stand. These older trees within younger stands must also be examined for the presence of RCW cavities.

These characteristics do not necessarily describe good quality nesting habitat (see 2D, 8E, 8F in RCW Recovery Plan 2003); rather, this is a conservative description of potentially suitable nesting habitat.

All stands and trees 60 yrs or older need to be surveyed for presence of RCW cavities.

The age of stands can be determined by aging representative dominant pines using an increment-borer and counting annual growth rings.

## Surveying for RCW Cavity Trees

- Step 1.** All surveys for RCW cavity trees must be conducted by personnel experienced in management and/or monitoring of the species.
- Step 2.** All potential nesting habitat should be surveyed by running line transects through stands and visually inspecting all medium and large sized pine for evidence of RCW cavity excavation.
- Step 3.** Whenever possible, walk transects north-south because many cavity entrances are oriented in a westerly direction. Transects must be spaced so that all trees are inspected. The necessary spacing will vary with habitat structure and season from a maximum of 100 yards between transects in very open pine stands to 50 yards or less in areas with a dense midstory.
- Step 4.** Trees with flat tops (usually loblolly and longleaf pines) are indicative of older trees and must be closely inspected.
- Step 5.** If RCW cavity trees are found within the study area or half mile, mark the tree by putting several rings of flagging tape on the tree (make sure flagging is highly visible).
- Step 6.** Record the location of all cavity trees in the field using a Global Positioning System (GPS) unit, aerial photograph, and/or field map. Activity status, cavity stage (start, advanced start, or complete cavity), and any entrance enlargement are assessed and recorded at this time.
- Step 7.** Taking photos can be useful to verify that they are RCW cavities.
- Step 8.** If cavity trees are found, more intense surveying within 1500 feet of each cavity tree is conducted to locate all cavity trees in the area.
- Step 9.** If active completed cavities are found, then the RCW trees need to be observed at dusk or dawn to determine if cavities are being used by RCWs. **This should only be done with supervision of experienced RCW biologist.**
- Step 10.** Cavity trees are later assigned into clusters based on observations of RCW as described in 3A, RCW Recovery Plan 2003.
- Step 11.** Report any cavity trees or other evidence of RCW activity to the U.S. Fish and Wildlife Service and the NC Natural Heritage Program.
- Step 12.** Once surveys for cavity trees are complete, the need for a FHA must be determined and a biological conclusion rendered. If a FHA is needed, a biological assessment will be required along with consultation with USFWS. Consult with your supervisor to determine whether the FHA will be done in-house or outsourced to an on-call consultant.

## Background

Surveys are used to determine whether the nesting and/or foraging habitat of a red-cockaded woodpecker group will be adversely affected by the proposed project. This is an important part of the conservation and management of this endangered species, and therefore, the U.S. Fish and Wildlife Service has developed standard survey and analysis procedures for such determinations. These determinations must be undertaken prior to the initiation of any project within the southeastern United States if 1) RCW's are listed for that particular county, and 2) if

the project calls for removal of pine trees 30 years or older (typically such trees will be at least 10 in. dbh or larger). Activities taking place near cavity trees, or those that could indirectly alter RCW habitat must also be considered, regardless of whether trees are removed or not.

## ***Policy, Regulatory, and Legal Requirements***

Endangered Species Act

## ***Warnings and Precautions***

Failure to survey for suitable foraging and nesting habitat in counties that have the red-cockaded woodpecker listed could result in project delays during the planning process. Project delays could also occur if the survey protocols are not followed and the project study area has to be resurveyed.

## ***Resources and Tools***

[U.S. Fish and Wildlife Service – Red-cockaded Woodpecker Recovery Plan 2003](#)

[U.S. Fish and Wildlife Service – RCW Homepage](#)

[U.S. Fish and Wildlife Service – Red-cockaded woodpeckers in North Carolina](#)

[U.S. Fish and Wildlife Service – RCW Most Recent Federal Documents](#)

[N.C. Natural Heritage Program – RCW Profile](#)

[RCW Survey Form](#)

[FHWA – ESA Delegation to State DOT's](#)

[NMFS – ESA Letter](#)

## ***Contacts***

- For suggestions to change this procedure contact: Karen Capps, [kbcapps@ncdot.gov](mailto:kbcapps@ncdot.gov)
- For questions about performing this procedure contact: Logan Williams, [loganwilliams@ncdot.gov](mailto:loganwilliams@ncdot.gov)

## ***Flowchart***

None

## Record of Revision

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